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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,850	10/22/2003	Ari Hottinen	60091.00238	4223
32294 7590 09/13/2007 SQUIRE, SANDERS & DEMPSEY L.L.P. 14TH FLOOR 8000 TOWERS CRESCENT TYSONS CORNER, VA 22182			EXAMINER KIM, KEVIN	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 09/13/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/689,850

Applicant(s)

HOTTINEN, ARI

Examiner

Kevin Y. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-19,21-34 and 36-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-10,12-19,21-25,27-34,36-40,42-47 is/are rejected.
- 7) ☒ Claim(s) 11,26,41,48 and 49 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-4,6-10,12-19,21-25,27-34,36-40,42-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Pasanen et al (US 2007/0109954)

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Claims 1,7,8,9,10,12,13,14,15.

Pasanen et al describes a method (see Fig.7) including:

determining a performance measure (Channel Quality Indicator) characterizing performance of a communication channel between a first transceiver and a second transceiver in a telecommunication system by using an extended channel model which depends on a non-orthogonal modulation matrix, the communication channel including non-orthogonal modulation by the non-orthogonal modulation matrix (see paragraph [0036]), wherein modulation symbols are distributed using at least two radiation patterns (space-time modulation as describe in paragraph [0036]), the performance measure being sensitive to the modulation; and

controlling the communication resources based on the performance measure (see Scheduler 22 in Fig.8 in response to the channel estimation).

Note that an “extended” channel model is not given weight since there is no reference given in the claim to judge what is extended.

Claims 2-4.

Pasanen et al teaches determining a plurality of performance measures for a plurality of communication channels between the first transceiver and the second transceiver (see paragraph [0079]);

and controlling the communication resources based on the performance measures.

Claim 6.

The space-time modulation taught by Pasanen et al provides the modulation matrix includes at least one symbol which is transmitted using at least two antenna resources within at least two symbol time intervals.

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Claims 16,22,23,24,25,27,28,30

Pasanen et al describes an arrangement (see Fig.8) including;

determining unit (23,24,25) configured to determine a performance measure characterizing performance of a communication channel between a first transceiver and a second transceiver in a telecommunications system by using an extended channel model which depends on a non-orthogonal modulation matrix, the communication channel including non-orthogonal modulation by the non-orthogonal modulation matrix, wherein modulation symbols are distributed using at least two radiation patterns, the performance measure being sensitive to the modulation; and

a controlling unit (22) configured to control the communication resources based on the performance measure.

Claims 17-19.

Pasanen et al teaches determining a plurality of performance measures for a plurality of communication channels between the first transceiver and the second transceiver (see paragraph [0079]);

and controlling the communication resources based on the performance measures.

Claim 21.

The space-time modulation taught by Pasanen et al provides the modulation matrix includes at least one symbol which is transmitted using at least two antenna resources within at

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least two symbol time intervals.

Claims 31,37,38,39,40,42,43,44,45.

Pasanen et al describes a controller of a telecommunications system, the controller including:

a performance measure estimator (23) configured to determine a performance measure that characterizes performance of a communication channel between a first transceiver and a second transceiver by using an extended channel model which depends on a non-orthogonal modulation matrix, the communication channel including non-orthogonal modulation by the non-orthogonal modulation matrix modulation,

wherein modulation symbols are distributed using at least two radiation patterns; and wherein the performance measure is sensitive to the modulation; and

a control unit (22) connected to the performance measurement unit, the control unit being configured to control the communication resources based on the performance measure.

Claims 32-34.

Pasanen et al teaches determining a plurality of performance measures for a plurality of communication channels between the first transceiver and the second transceiver (see paragraph [0079]);

and controlling the communication resources based on the performance measures.

Claim 36.

The space-time modulation taught by Pasanen et al provides the modulation matrix includes at least one symbol which is transmitted using at least two antenna resources within at least two symbol time intervals.

Claim 46.

Pasanen et al describes an arrangement (see Fig.8) including:

Means (23,24,25) for determining a performance measure characterizing performance of a communication channel between a first transceiver and a second transceiver by using an extended channel model which depends on a non-orthogonal modulation matrix, the communication channel including non-orthogonal modulation by the non-orthogonal modulation matrix, wherein modulation symbols are distributed using at least two radiation patterns, the performance measure being sensitive to the modulation; and means (22) for controlling the communication resources based on the performance measure.

Claim 47.

Note that an “extended” channel model is not given weight since there is no reference given in the claim to judge what is extended. Thus, any channel model matrix such as described by Pasanen reads on “an extended channel model.”

***Allowable Subject Matter***

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3. Claims 11, 26,41,48,49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

September 10, 2007

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KEVIN KIM  
PRIMARY PATENT EXAMINER

